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Bibliography

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(56) [Bibliography]

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CLAIMS

(57) [Utility model registration claim]

[Claim 1] If this substrate 5 is rotated after inserting a substrate 5 in the push-in slot 4 of the housing 1 with which much contacts 2 were arranged in the connector for substrate connection stopped and held inside the substrate supporter 10 of the latch 6 attached in the contact array direction ends of the aforementioned housing 1 while this substrate 5 contacts the aforementioned contact 2. The opening 8 which carries out opening to lateral-surface 1a of this housing 1 is formed in the contact array direction ends of the aforementioned housing 1. While inserting latch 6 in housing 1 from this opening 8 and stopping the stop section 9 in housing 1, the substrate supporter 10 of latch 6 is made to project above the aforementioned push-in slot 4. The connector for substrate connection characterized by forming the covering section 11 which portions other than the aforementioned substrate supporter 10 project and bend [the exterior of housing 1] to this housing 1, and covers latch 6 like.

[Claim 2] The connector for substrate connection characterized by being formed in the connector for substrate connection of a claim 1 so that an opening 8 may carry out opening to the substrate push-in side 12 of housing 1, or its opposite side 13.

[Claim 3] The connector for substrate connection to which it is about V characters-like, and substrate slideway 6a to which it shows the substrate 5 rotated to the substrate supporter 10 of latch 6 in the connector for substrate connection of a claim 1 or a claim 2, and substrate stop side 6b which the substrate 5 rotated from

substrate slideway 6a to the point stops are formed in an outside breadth at a loose angle, and is characterized by the bird clapper.

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DETAILED DESCRIPTION

[Detailed explanation of a design]

[0001]

[Industrial Application] This design is especially used for connection of two substrates (for example, a mother board, a daughter board, or a main board and a sub board) about the connector for substrate connection used for EWS (engineering workstation), the change in flexible memory space, and OA equipment which needs functional change etc., for example, a personal computer, etc.

[0002]

[Description of the Prior Art] As a connector which connects two substrates, there were various kinds of things from before, and there were drawing 8 and a thing shown in 9 as one of them. This inserts in the through-hole of a mother board F two or more contacts E with which Housing A is equipped. Lean aslant and a daughter board B is inserted in the insertion slot C of this housing A, as shown in drawing 8. Pushing outside two latches D which a daughter board B is rotated in the direction of arrow X of this drawing from this state, and are attached in the upper part of Housing A on this board B. This board B is made to stand up to a perpendicular to the inside of this latch D, as shown in drawing 9, the front face of this board B is stopped by this latch D, and it is made to hold in the standing-up state. At this time, a daughter board B and a mother board F become connectable electrically through Contact E.

[0003] In order to demount the daughter board B with which it was equipped like drawing 9, after this connector hooks fixtures (a driver, ball-point, etc.), a fingertip, etc. on the release section H of the aforementioned latch D and pushes down Latch D in the direction (outside) of arrow Y of drawing 9 aslant, as shown in drawing 8, it topples a daughter board B ahead, and has demounted the daughter board B from

the insertion slot C to it the back. For this reason, the release section H of Latch D must make the outside of Housing A project so that it may be easy to hook a fixture, a finger, etc. Therefore, in the connector of drawing 9, Latch D is inserted in this housing A from the upper part of Housing A, and the release section H is carried on front **** G.

[0004]

[Problem(s) to be Solved by the Device] In the aforementioned connector, since the release section H has projected on the outside of Housing A, when many connectors are put in order and attached in the mother board F of one sheet forward and backward at the narrow interval, and inserting a finger in the slit between the connector and removing a daughter board B, the accident in which an operator was injured by throwing a finger at the ***** release section H had occurred plentifully.

[0005] It aims at attachment and detachment of a substrate being easy for this design, and a finger not being injured moreover, and offering the safe connector for substrate connection.

[0006]

[Means for Solving the Problem] As the connector for substrate connection of a claim 1 is shown in drawing 1, drawing 3, and drawing 4 among this design If this substrate 5 is rotated after inserting a substrate 5 in the push-in slot 4 of the housing 1 with which much contacts 2 were arranged In the connector for substrate connection stopped and held inside the substrate supporter 10 of the latch 6 attached in the contact array direction ends of the aforementioned housing 1 while this substrate 5 contacts the aforementioned contact 2 The opening 8 which carries out opening to outside side 1a of this housing 1 is formed in the contact array direction ends of the aforementioned housing 1. While inserting latch 6 in housing 1 from this opening 8 and stopping the stop section 9 in housing 1, the substrate supporter 10 of latch 6 is made to project above the aforementioned push-in slot 4. The covering section 11 which portions other than the aforementioned substrate supporter 10 project and bend [the exterior of a housing 1] to this housing 1, and covers latch 6 like is formed.

[0007] Among this design, in the connector for substrate connection of a claim 1, the connector for substrate connection of a claim 2 carries out opening of the aforementioned opening 8 to the substrate push-in side 12 of housing 1, or its opposite side 13, as shown in drawing 5 and 7.
 [0008] In the connector for substrate connection of a claim 1 or a claim 2, it comes to form the connector for substrate connection of a claim 3 in an outside breadth at the angle with its substrate slideway 6a to which it shows the substrate 5 rotated to the substrate supporter 10 of latch 6, and whose substrate stop side 6b which supports the substrate 5 rotated from substrate slideway 6a to the point are about V characters-like among this design. [loose] [0009]

[Function] As shown in drawing 1 -7, the connector for substrate connection of this design the latch 6 for stopping a substrate 5 It inserts in housing 1 from the opening

8 which carries out opening to lateral-surface 1a of the array direction ends of contact of housing 1, the substrate push-in side 12, or its opposite side 13. And since the covering section 11 was formed in housing 1, portions other than the aforementioned substrate supporter 10 projected and bent to the exterior (upper part and side) of housing 1 and it was made like, when many connectors of this design are put in order and attached in one substrate 3 forward and backward at a narrow interval Although a finger is inserted in the slit between the connectors of order in order to demount a substrate 5 from a connector, it is not injured by throwing a finger at latch 6.

[0010]

[Example 1] In drawing 1 which shows one example of the connector for substrate connection of this design – drawing 4 , 1 is housing of a connector, and this is fabricated by insulators, such as plastics. The push-in slot 4 which inserts a substrate 5 is formed in this housing 1. In order to lean a substrate 5 aslant, to insert it in this push-in slot 4 like drawing 4 (a), to rotate a substrate 5 in the direction of s of drawing 4 (a) from the position and to make this substrate 5 stand up perpendicularly like drawing 4 (b), it is made into width so that a substrate 5 can rotate the pars basilaris ossis occipitalis 24 of the push-in slot 4.

[0011] 2 is contact with which housing 1 is equipped, and it is made for two contact beams 27 and 28 to which this carries out fastening maintenance of the front rear faces 25 and 26 of a substrate 5 to have contacted the circuit pattern by which the upper part is countered, and it is formed, among those one beam 28 is printed by the rear face 26 of a substrate 5. Moreover, both the contact beams 27 and 28 are incurvated as shown in drawing 4 (a) and (b), and they have given spring nature so that a pressure welding may be carried out to both the contact beam 27 and the front rear faces 25 and 26 of the substrate 5 inserted among 28 while making movable easy to carry out in the direction of X-X of this drawing. The stop section 21 protrudes on the lower part of this contact 2, the stop salient 22 which eats into the inside of housing 1 protrudes on the crosswise both-sides side of this stop section 21, and the lead section 29 inserted in the lower part of the stop section 21 at the through-hole of the substrate 3 of another side protrudes.

[0012] And in drawing 4 (a) and (b), while only the protrusion positions of the lead section 29 differ, and others arrange by turns two kinds of contacts 2 which are the same structure to the longitudinal direction of housing 1, inserting the aforementioned contact beams 27 and 28 like drawing 1 and making a slot 4 project, the lead section 29 which projects from housing 1 is made right and left at the staggered arrangement at two trains.

[0013] The opening 8 which inserts the latch 6 shown in drawing 2 in housing 1 is formed in the array direction ends side of contact of the housing 1 shown in drawing 1 . This opening 8 is formed so that opening may be carried out to lateral-surface 1a of this housing 1. Moreover, the covering section 11 which portions other than substrate supporter 10 project and bend to the exterior of housing 1 among latches

6, and covers latch 6 like is formed in the array direction ends side of contact of this housing 1.

[0014] Latch 6 carries out mold omission of the metal plate, as shown in drawing 2, it carries out folding of it, and is fabricated, the stop section 9 of a KO typeface is formed in the lower part of ***** 31 which has inclined forward somewhat, the stop salient 34 protrudes on the upper surface and the base of the both-sides wall 33 of this stop section 9, and the substrate supporter 10 is formed in the upper part of ***** 31. This substrate supporter 10 is ahead bent and formed in the upper-limit section 35 of ***** 31, is about V characters-like, and comes to form in an outside breadth substrate slideway 6a and substrate stop side 6b to which it shows the substrate 5 moreover rotated at a loose angle. This substrate stop side 6b supports the front face 25 of a substrate 5, when a substrate 5 rotated and stands up like drawing 4 (a). Moreover, since aforementioned ***** 31 and the aforementioned substrate supporter 10 have the spring nature which can be changed in the direction of t-t of drawing 2, when rotating a substrate 5 from the inclination state of drawing 4 (a) to the standing-up state of drawing 4 (b), and when rotating conversely from the standing-up state of drawing 4 (b) to the inclination state of drawing 4 (a), they are pushed outside, and have been automatically returned and (self-reset is carried out) changed into the original state.

[0015] And this latch 6 is pushed in in housing 1 from the aforementioned opening 8, and the substrate supporter 10 is inserted from awning window 1c by which opening is carried out to paries-medialis-orbitae 1b of the array direction both ends of contact of housing 1, and it makes it have projected above the slot 4, as shown in drawing 3. Moreover, insert the both-sides wall 33 of the stop section 9 of latch 6 in the hold slot 36 currently formed in the array direction ends side of contact of housing 1, the stop salient 34 of this stop section 9 is made to eat into the upper surface and the inferior surface of tongue of this hold slot 36, and it has fixed. Furthermore, when holding the crosswise front end side 37 of ***** 31 of latch 6 by the attaching part 38 in housing 1 and making a substrate 5 incline forward like drawing 4 (a) from the standing-up state of drawing 4 (b), ***** 31 is ahead pushed by the substrate 5, and it is made to have not fallen.

[0016] 41 of drawing 1 and drawing 3 is ***** 31, and this is for protruding ahead from the tooth-back board 42 of housing 1, inserting a substrate 5 in the fitting hole 43 which has been made in this substrate 5 when it stands up perpendicularly like drawing 4 (b), and making it this substrate 5 not fall out up.

[0017]

[Example 2] In drawing 5 and drawing 7 which show other examples of the connector for substrate connection of this design, 1 is housing. The opening 8 with which this housing 1 inserts the latch 6 of drawing 6 in the array direction ends side of contact is formed. This opening 8 is formed so that opening may be carried out to the substrate push-in side 12 of this housing 1, or its opposite side 13. Moreover, the push-in crevice 44 which stuffs into drawing 5 and the inside lower part of the

opening 8 of drawing 7 the stop section 9 of the latch 6 shown in drawing 6 is formed, and the protrusion mouth 45 which the substrate supporter 10 of latch 6 makes project is formed in the upper part.

[0018] Moreover, the covering section 11 which portions other than substrate supporter 10 project and bend to the exterior of housing 1 among latches 6, and covers latch 6 like is formed in the array direction ends side of contact of this housing 1. 41 of drawing 5 and drawing 7 is *****, and is for this being formed in housing 1 as well as aforementioned drawing 1 and ***** 41 of 3, and making it this substrate 5 not fall out up.

[0019] Mold omission of the metal plate is carried out, folding of it is carried out, it has formed, the stop section 9 is formed in the lower part of ***** 31 which has inclined forward somewhat, the stop salient 34 is formed in the upper surface and the base of the both-sides wall 33 of this stop section 9, and the latch 6 of drawing 6 with which drawing 5 and the housing 1 of 7 are equipped has also formed the substrate supporter 10 of the shape of V character of the same configuration as the substrate supporter 10 of a Since this ***** 31 and the substrate supporter 10 also have the spring nature which can be changed in the direction of t-t of drawing 6 , if they are pushed outside when rotating a substrate 5 from the inclination state of drawing 4 (a) to the standing-up state of drawing 4 (b), and when rotating conversely from the standing-up state of drawing 4 (b) to the inclination state of drawing 4 (a), they have been automatically returned and (self-reset is carried out) changed into the original state. Moreover, when a substrate 5 stands up like drawing 4 (b), the substrate supporter 10 enables it to have held the front face 25 of a substrate 5.

[0020] And this latch 6 is pushed in in housing 1 from the aforementioned opening 8, inserts the substrate supporter 10 from the aforementioned protrusion mouth 45, and makes it have projected above the slot 4, as shown in drawing 5 and 7.

Moreover, while inserting the stop section 9 of latch 6, inserting in a crevice 44 and covering the outside of the fitting projected part 46 of housing 1, the stop salient 34 is made to eat into the upper surface and the inferior surface of tongue of this push-in crevice 44, and it has fixed. Thereby, when rotating a substrate 5 in the standing-up state of drawing 4 (b) from the anteversion state of drawing 4 (a), and when rotating in the anteversion state of drawing 4 (a) from the standing-up state of drawing 4 (b) conversely, the aforementioned stop section 9 is stopped by the fitting projected part 46, and it has been made not to carry out the position gap of the latch 6 in the rotation direction of a substrate 5.

[0021] In addition, the thing equivalent to the release section H of drawing 9 is not prepared in the latch 6 of drawing 2 and drawing 6 . For this reason, in the connector of drawing 1 and drawing 5 , without canceling a stop of the substrate 5 by latch 6 one by one with a fixture or a finger, a substrate 5 is lengthened by the force, while being stopped by the latch 6, it is canceled of the stop of latch 6, and is pushed down like drawing 4 (a).

[0022]

[Effect of the Device] The connector for substrate connection of this design has the various following effects.

** : Only the substrate supporter 10 of latch 6 projects in housing 1, and since other portions of latch 6 are covered with the covering section 11, they are [no possibility that a finger may be injured in latch 6 at the time of removal of the substrate 5 from housing 1] and are safe.

** . Since latch 6 is not canceled one by one at the time of removal of a substrate 5, the removal work of a substrate 5 becomes easy.

[0023] Since it comes to form the connector for substrate connection of the claim 3 of this design in an outside breadth at the angle with them substrate slideway 6a and whose substrate stop side 6b are about V characters-like, a substrate 5 is certainly stopped by substrate stop side 6b, and if an opposite direction is made to rotate a substrate 5 strongly even if it does not extend latch 6 outside with a finger, moreover, it will separate from a substrate 5 from substrate stop side 5b. [loose] For this reason, wearing of a substrate 5 and removal become easily and certain.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] The perspective diagram showing one example of the connector for substrate connection of this design.

[Drawing 2] The perspective diagram showing one example of the latch in the connector for substrate connection of drawing 1 .

[Drawing 3] The perspective diagram which looked at housing of the connector for substrate connection of drawing 1 from drawing 1 and the opposite side.

[Drawing 4] For this drawing (a), this drawing (b) is a cross section in the state where the substrate was aslant inserted in the connector for substrate connection of drawing 1 , and a cross section in the state where the substrate aslant inserted in the connector for substrate connection of drawing 1 was made to stand up

perpendicularly.

[Drawing 5] The perspective diagram of other examples of the connector for substrate connection of this design.

[Drawing 6] The perspective diagram showing other examples of the latch in the connector for substrate connection of drawing 5 .

[Drawing 7] The perspective diagram of the example of others of the connector for substrate connection of this design.

[Drawing 8] The perspective diagram in the state of inserting a substrate in the conventional connector for substrate connection aslant.

[Drawing 9] The perspective diagram in the state where the substrate aslant inserted in the connector for substrate connection of drawing 8 was made to stand up perpendicularly.

[Description of Notations]

1 Housing

2 Contact

3 Substrate

4 Push-in Slot

5 Substrate

6a Substrate slideway

6b Substrate stop side

6 Latch

8 Opening

9 Stop Section

10 Substrate Supporter

11 Covering Section

12 Substrate Push-in Side

13 Opposite Side

1a Outside side

[Translation done.]

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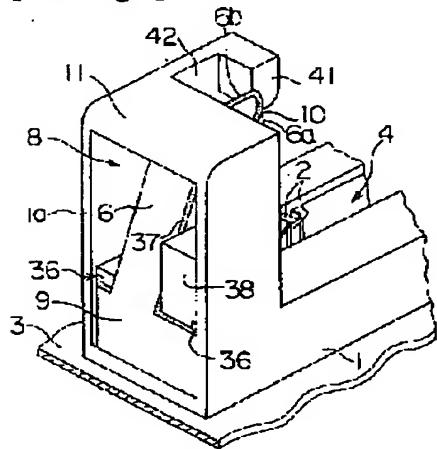
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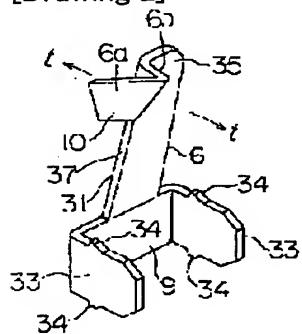
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DRAWINGS

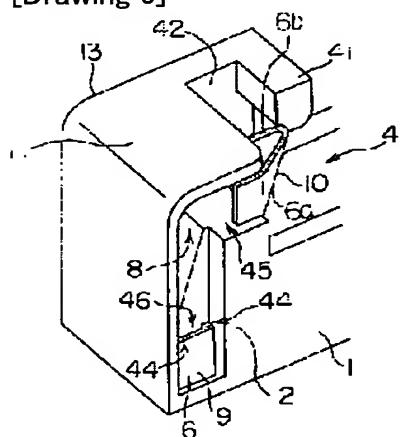
[Drawing 1]



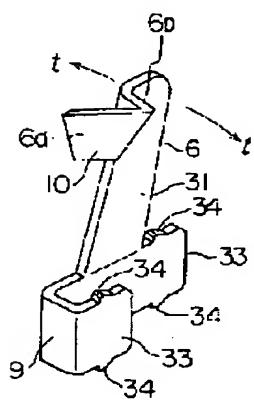
[Drawing 2]



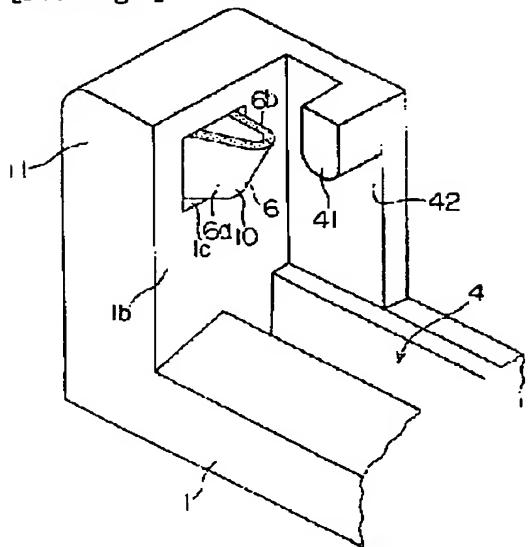
[Drawing 5]



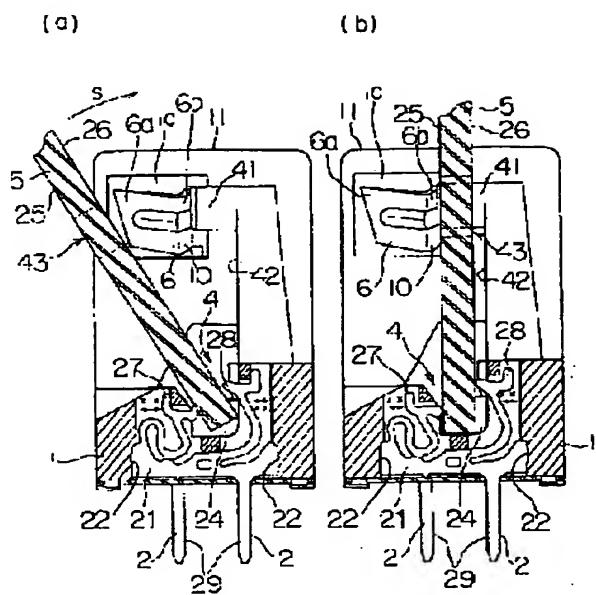
[Drawing 6]



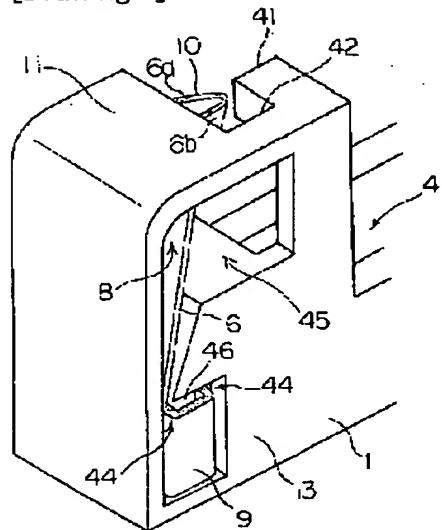
[Drawing 3]



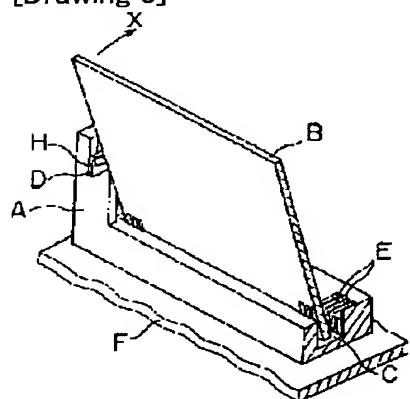
[Drawing 4]



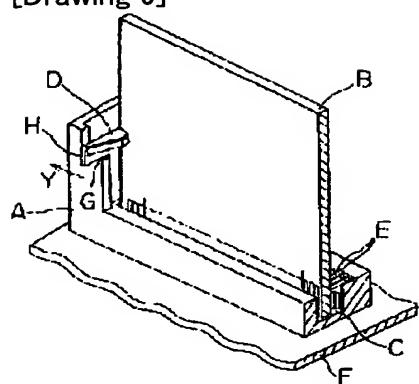
[Drawing 7]



[Drawing 8]



[Drawing 9]



[Translation done.]

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	審査官 小川 謙
(56)参考文献	特開 平4-149974 (JP, A) 特表 平3-504180 (JP, A)

(54)【考案の名称】 基板接続用コネクタ

1

(57)【実用新案登録請求の範囲】
【請求項1】 多数のコンタクト2が配列されたハウジング1の差込み溝4内に基板5を差込んでから同基板5を回動させると、同基板5が前記コンタクト2に接触すると共に前記ハウジング1のコンタクト配列方向両端に取付けられているラッチ6の基板支持部10の内側に係止されて保持されるようにした基板接続用コネクタにおいて、前記ハウジング1のコンタクト配列方向両端に、同ハウジング1の外側面1aに開口する差込み口8を形成し、同差込み口8からハウジング1内にラッチ6を差込んでその係止部9をハウジング1に係止すると共にラッチ6の基板支持部10を前記差込み溝4の上方に突出させ、同ハウジング1に前記基板支持部10以外の部分がハウジング1の外部に突出しないようにラッチ6を被覆する被覆部11を設けたことを特徴とする基板接続用

2

コネクタ。

【請求項2】 請求項1の基板接続用コネクタにおいて、差込み口8がハウジング1の基板差込み側面12またはその反対側面13に開口するように形成されたことを特徴とする基板接続用コネクタ。

【請求項3】 請求項1又は請求項2の基板接続用コネクタにおいて、ラッチ6の基板支持部10に、回動する基板5を案内する基板案内面6aと、基板案内面6aより先まで回動された基板5が係止する基板係止面6bとが、ほぼV字状で且つ緩い角度で外側広がりに形成されことを特徴とする基板接続用コネクタ。

【考案の詳細な説明】

【0001】

【産業上の利用分野】 本考案はフレキシブルなメモリ容量の増減や、機能変更等を必要とするOA機器、例えば

パソコンやEWS（エンジニアリングワークステーション）等に使用される基板接続用コネクタに関するものであり、特に、2枚の基板（例えばマザーボードとデーターボード或はメインボードとサブボード）の接続に使用されるものである。

【0002】

【従来の技術】2枚の基板を接続するコネクタとしては従来より各種のものがあり、その1つとして例えば、図8、9に示すものがあった。これはハウジングAに装着されている複数のコンタクトEをマザーボードFの通孔に挿入し、同ハウジングAの挿入溝CにデーターボードBを図8に示すように斜めに傾けて挿入し、この状態からデーターボードBを同図の矢印X方向に回動させて同ボードBによりハウジングAの上部に取付けられている2つのラッチDを外側に押しながら、図9に示すように同ボードBを同ラッチDの内側まで垂直に起立させ、同ボードBの表面を同ラッチDで係止して起立状態に保持するようにしたものである。このときデーターボードBとマザーボードFはコンタクトEを介して電気的に接続可能となる。

【0003】このコネクタは、図9のように装着されたデーターボードBを取外すには、前記ラッチDのリリース部Hに治具（ドライバーとかボールペン等）や指先等を引っ掛け、ラッチDを図9の矢印Y方向（外側）に斜めに倒してから、データーボードBを図8に示すように前方に倒し、それ後にデーターボードBを挿入溝Cから取外すようにしてある。このためラッチDのリリース部Hは治具や指等を引っ掛け易いようにハウジングAの外側に突出させなければならない。そのため図9のコネクタではラッチDをハウジングAの上方から同ハウジングA内に差込んで、リリース部Hを前方受縁Gの上にのせるようにしてある。

【0004】

【考案が解決しようとする課題】前記コネクタではリリース部HがハウジングAの外側に突出しているため、多数のコネクタが1枚のマザーボードFに狭い間隔で前後に並べて取付けられている場合、そのコネクタ間の狭い隙間に指を差込んでデーターボードBを外すときに、作業者が過ってリリース部Hに指をぶつけて怪我をするという事故が多々発生していた。

【0005】本考案は基板の着脱が容易で、しかも指を怪我することがなく安全な基板接続用コネクタを提供することを目的とする。

【0006】

【課題を解決するための手段】本考案のうち請求項1の基板接続用コネクタは図1、図3、図4に示すように、多数のコンタクト2が配列されたハウジング1の差込み溝4内に基板5を差込んでから同基板5を回動させると、同基板5が前記コンタクト2に接触すると共に前記ハウジング1のコンタクト配列方向両端に取付けられて

いるラッチ6の基板支持部10の内側に係止されて保持されるようにした基板接続用コネクタにおいて、前記ハウジング1のコンタクト配列方向両端に、同ハウジング1の外側面1aに開口する差込み口8を形成し、同差込み口8からハウジング1内にラッチ6を差込んでその係止部9をハウジング1に係止すると共にラッチ6の基板支持部10を前記差込み溝4の上方に突出させ、同ハウジング1に前記基板支持部10以外の部分がハウジング1の外部に突出しないようにラッチ6を被覆する被覆部11を設けたものである。

【0007】本考案のうち請求項2の基板接続用コネクタは請求項1の基板接続用コネクタにおいて、前記差込み口8を図5、7に示すようにハウジング1の基板差込み側面12またはその反対側面13に開口させたものである。

【0008】本考案のうち請求項3の基板接続用コネクタは請求項1又は請求項2の基板接続用コネクタにおいて、ラッチ6の基板支持部10に、回動する基板5を案内する基板案内面6aと、基板案内面6aより先まで回動された基板5を支持する基板係正面6bとが、ほぼV字状で且つ緩い角度で外側広がりに形成されてなるものである。

【0009】

【作用】本考案の基板接続用コネクタは図1～7に示すように、基板5を係止するためのラッチ6を、ハウジング1のコンタクトの配列方向両端の外側面1aまたは基板差込み側面12またはその反対側面13に開口する差込み口8からハウジング1内に差込み、しかも、ハウジング1に被覆部11を設けて前記基板支持部10以外の部分がハウジング1の外部（上方及び側方）に突出しないようにしたので本考案の多数のコネクタを1枚の基板3に狭い間隔で前後に並べて取付けた場合に、コネクタから基板5を取外すために前後のコネクタ間の狭い隙間に指を差込んでもラッチ6に指をぶつけて怪我をすることがない。

【0010】

【実施例1】本考案の基板接続用コネクタの一実施例を示す図1～図4において1はコネクタのハウジングであり、これはプラスチック等の絶縁体により成形されている。このハウジング1には基板5を差込む差込み溝4が形成されている。この差込み溝4には図4（a）のように基板5を斜めに傾けて差込み、その位置から図4（a）のs方向に基板5を回動させて、同基板5を図4（b）のように垂直に起立させるため、差込み溝4の底部24を基板5が回動できるように広めにしてある。

【0011】2はハウジング1に装着されているコンタクトであり、これは基板5の表裏面25、26を挟着保持する2つの接触ビーム27、28が上部に対向して形成され、そのうち一方のビーム28は基板5の裏面26に印刷されている配線パターンに接触するようにしてあ

る。また、両接触ビーム27、28は図4(a)、(b)に示すように湾曲させて同図のX-X方向に可動し易くすると共に両接触ビーム27、28間に挿入された基板5の表裏面25、26に圧接するようにバネ性を持たせてある。同コンタクト2の下部には係止部21が突設され、同係止部21の幅方向両側面にハウジング1の内面に食い込む係止突起22が突設され、係止部21の下部に他方の基板3の通孔に差込まれるリード部29が突設されている。

【0012】そして図4(a)、(b)ではリード部29の突出位置だけが異なり他は同じ構造である2種類のコンタクト2を、ハウジング1の長手方向に交互に配列して、前記接触ビーム27、28を図1のようく差込み溝4に突出させると共に、ハウジング1から突出するリード部29を左右に2列に千鳥配列にしてある。

【0013】図1に示すハウジング1のコンタクトの配列方向両端側には、図2に示すラッチ6をハウジング1内に差込む差込み口8が形成されている。この差込み口8は同ハウジング1の外側面1aに開口するように形成されている。また、同ハウジング1のコンタクトの配列方向両端側には、ラッチ6のうち基板支持部10以外の部分がハウジング1の外部に突出しないようにラッチ6を被覆する被覆部11を設けてある。

【0014】ラッチ6は図2に示すように金属板を型抜きし、それを折曲げ加工して成形されており、多少前傾している細長板31の下部にコ字形の係止部9が形成され、同係止部9の両側壁33の上面と底面に係止突起34が突設され、細長板31の上部に基板支持部10が形成されている。この基板支持部10は細長板31の上端部35を前方に折曲げて形成してあり、しかも回動する基板5を案内する基板案内面6aと基板係止面6bとをほぼV字状で且つ緩い角度で外側広がりに形成してなる。この基板係止面6bは図4(a)の如く基板5が回動して起立したときに、基板5の表面25を支持するものである。また、前記の細長板31及び基板支持部10は図2のt-t方向に変移可能なバネ性を持っているため、基板5を図4(a)の傾斜状態から図4(b)の起立状態まで回動するときも、逆に図4(b)の起立状態から図4(a)の傾斜状態まで回動するときも外側に押されて自動的に元の状態に戻る(自己復帰する)ようにしてある。

【0015】そしてこのラッチ6は前記差込み口8からハウジング1内に押込んで、基板支持部10を図3に示すように、ハウジング1のコンタクトの配列方向両端部の内側壁1bに開口されている突出窓1cから差込み溝4の上方に突出させてある。また、ラッチ6の係止部9の両側壁33を、ハウジング1のコンタクトの配列方向両端側に形成されている収容溝36内に差込んで、同係止部9の係止突起34を同収容溝36の上面と下面に食い込ませて固定してある。更に、ラッチ6の細長板31

の幅方向前端面37をハウジング1内の保持部38で保持して、基板5を図4(b)の起立状態から図4(a)の如く前傾させるときに、同細長板31が基板5により前方に押されて倒れないようにしてある。

【0016】図1、図3の41は抜止め突子であり、これはハウジング1の背面板42から前方に突設されており、基板5を図4(b)の如く垂直に起立したときに、同基板5に開けられている嵌合穴43に嵌入して、同基板5が上方に抜けないようにするためのものである。

【0017】

【実施例2】本考案の基板接続用コネクタの他の実施例を示す図5、図7において、1はハウジングである。このハウジング1はコンタクトの配列方向両端側に、図6のラッチ6を差込む差込み口8が形成されている。この差込み口8は同ハウジング1の基板差込み側面12またはその反対側面13に開口するように形成されている。また、図5、図7の差込み口8の内側下部には図6に示すラッチ6の係止部9を押込む差込み凹部44が形成されており、その上方にラッチ6の基板支持部10が突出させる突出口45が形成されている。

【0018】また、同ハウジング1のコンタクトの配列方向両端側には、ラッチ6のうち基板支持部10以外の部分がハウジング1の外部に突出しないようにラッチ6を被覆する被覆部11を設けてある。図5、図7の41は抜止め突子であり、これは前記図1、3の抜止め突子41と同じくハウジング1に形成されて、同基板5が上方に抜けないようにするためのものである。

【0019】図5、7のハウジング1に装着する図6のラッチ6も金属板を型抜きし、それを折曲げ加工して形成してあり、多少前傾している細長板31の下部に係止部9を形成し、同係止部9の両側壁33の上面と底面に係止突起34を形成し、細長板31の上部に図2のラッチの基板支持部10と同じ形状のV字状の基板支持部10を形成してある。この細長板31及び基板支持部10も図6のt-t方向に変移可能なバネ性を持っているため、それらは基板5を図4(a)の傾斜状態から図4(b)の起立状態まで回動するときも、逆に、図4(b)の起立状態から図4(a)の傾斜状態まで回動するときも外側に押されると自動的に元の状態に戻る(自己復帰する)ようにしてある。また、図4(b)の如く基板5が起立したときは、基板支持部10が基板5の表面25を保持できるようにしてある。

【0020】そしてこのラッチ6は前記差込み口8からハウジング1内に押込んで、基板支持部10を図5、7に示すように前記突出口45から差込み溝4の上方に突出させてある。また、ラッチ6の係止部9を差込み凹部44に差込んでハウジング1の嵌合突部46の外側に被せると共に、係止突起34を同差込み凹部44の上面と下面に食い込ませて固定してある。これにより、基板5

を図4(a)の前傾状態から図4(b)の起立状態に回動するときも、逆に、図4(b)の起立状態から図4

(a)の前傾状態に回動するときも、前記係止部9が嵌合突部46に係止されて、ラッチ6が基板5の回動方向に位置ずれしないようにしてある。

【0021】なお、図2、図6のラッチ6には図9のリリース部Hに相当するものを設けてない。このため図1、図5のコネクタではラッチ6による基板5の係止を治具や指で一々解除することなく、基板5をラッチ6に係止されているまま無理に引いてラッチ6の係止から解除し、図4(a)のように倒す。

【0022】

【考案の効果】本考案の基板接続用コネクタは次のような各種効果がある。

①. ハウジング1内に突出するのはラッチ6の基板支持部10だけであり、ラッチ6の他の部分は被覆部11で被覆されるので、ハウジング1からの基板5の取外し時に指がラッチ6に当ることがなく怪我する虞れがなく安全である。

②. 基板5の取外し時に一々ラッチ6を解除しないので、基板5の取外し作業が容易になる。

【0023】本考案の請求項3の基板接続用コネクタは基板案内面6aと基板係止面6bとが、ほぼV字状で且つ緩い角度で外側広がりに形成されてるので、基板5は基板係止面6bに確実に係止され、しかも、ラッチ6を指で外側に広げなくとも、基板5を強く逆方向に回動させれば基板5は基板係止面5bから外れる。このため基板5の装着、取外しが容易且つ確実になる。

【図面の簡単な説明】

【図1】本考案の基板接続用コネクタの一実施例を示す斜視図。

【図2】図1の基板接続用コネクタにおけるラッチの一実施例を示す斜視図。

*

* 【図3】図1の基板接続用コネクタのハウジングを図1と反対側から見た斜視図。

【図4】同図(a)は図1の基板接続用コネクタに基板を斜めに差込んだ状態の断面図、同図(b)は図1の基板接続用コネクタに斜めに差込んだ基板を垂直に起立させた状態の断面図。

【図5】本考案の基板接続用コネクタの他の実施例の斜視図。

【図6】図5の基板接続用コネクタにおけるラッチの他の実施例を示す斜視図。

【図7】本考案の基板接続用コネクタのその他の実施例の斜視図。

【図8】従来の基板接続用コネクタに基板を斜めに差込む状態の斜視図。

【図9】図8の基板接続用コネクタにおいて斜めに差込んだ基板を垂直に起立させた状態の斜視図。

【符号の説明】

1 ハウジング

2 コンタクト

3 基板

4 差込み溝

5 基板

6a 基板案内面

6b 基板係止面

6 ラッチ

8 差込み口

9 係止部

10 基板支持部

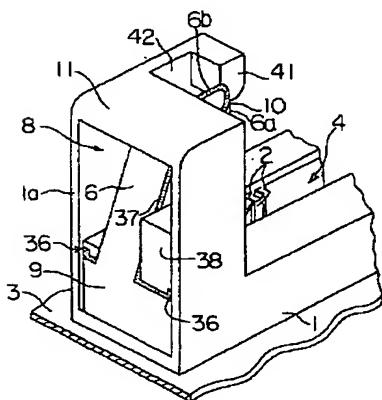
11 被覆部

12 基板差込み側面

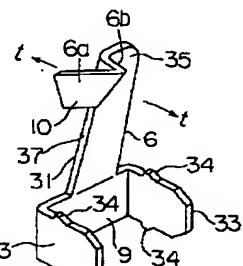
13 反対側面

1a 外側面

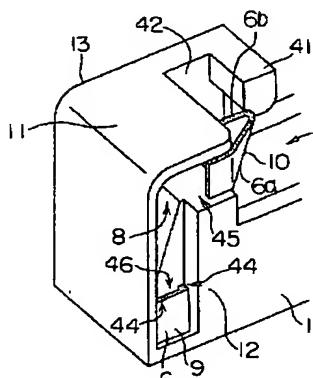
【図1】



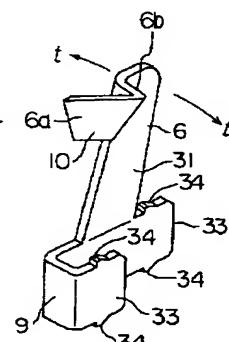
【図2】



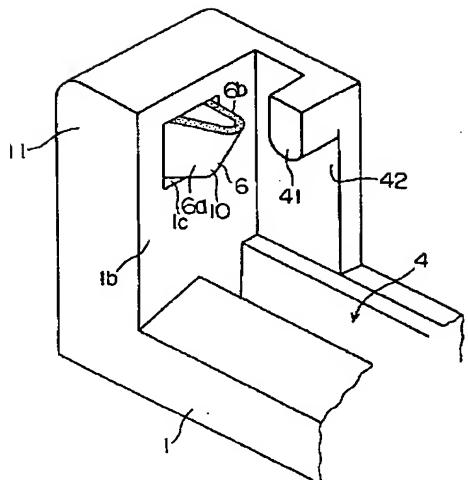
【図5】



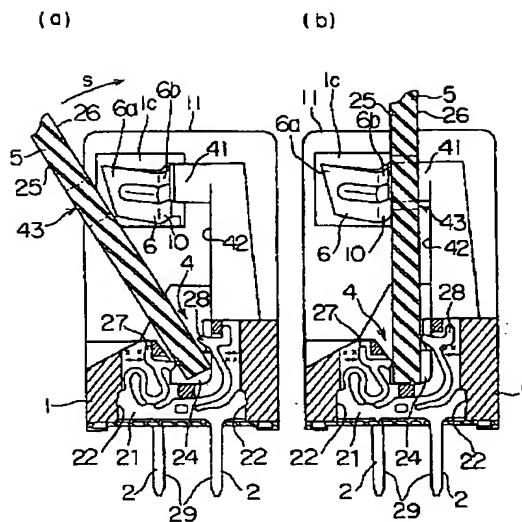
【図6】



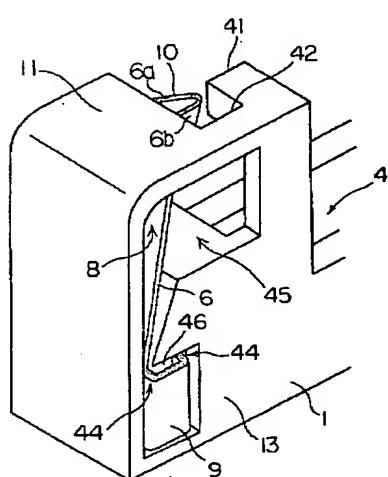
【図3】



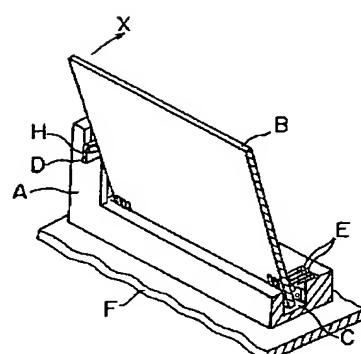
【図4】



【図7】



【図8】



【図9】

